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EXAMINER

VIDA, MELANIE M

ART UNIT PAPER NUMBER

2626

DATE MAILED: 03/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/604,102

Applicant(s)

KIZAWA, MAKOTO

Examiner

Melanie M Vida

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement(s) (IDS) submitted on 8/15/02 has been considered by the examiner and is attached to this office action.

Specification

2. The abstract of the disclosure is objected to because of undue length. According to 37 CFR 1.72(b), an abstract is not to exceed 150 words in length when the application is filed under 35 U.S.C. 111. Correction is required. See MPEP § 608.01(b).

Claim Objections

3. **Claim 11 and 12** are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 1 comprises the printing apparatus comprising a language interpretation section received from a host apparatus, a second decision section, and a prediction section with the corresponding instructions, respectively, as re-cited in **claim 11**. Claim 9 comprises the compression/decompression section, and claim 1 comprises the printing section, as re-cited in **claim 12**.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. **Claims 1, 15, 17-19** are rejected under 35 U.S.C. 102(e) as being anticipated by Mitani, US-PAT-NO: 6,124,943, (hereinafter, Mitani).

Regarding, **claim 1**, Mitani illustrates in figure 1, a laser beam printer (LBP) (1000), which reads on “a printing apparatus”, (col. 4, lines 57-60). The LBP (1000) receives and stores printing data (i.e. page description language) supplied from a host computer (210) as shown in figures 4 and 25, and forms an image on a recording medium, which reads on “that prints data sent from a host apparatus connected via a network”, (col. 4, lines 61-64; col. 5, lines 1-3; col. 5, lines 35-39). A RAM (250), as shown in figure 2, which reads on “a storage section” stores the printing data (i.e. a printer language such as a page description language comprised of character

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codes, control codes, etc) in the form of intermediate data from an intermediate data creating section (240), which reads on “including an image data area that stores image data acquired by interpreting a page description language of the print data set from said host apparatus”, (col. 4, lines 61-67; col. 5, lines 51-61; col. 7, lines 8-15). Moreover, the intermediate data is compressed into compressed data (255) and loaded in a compressed data storage area (256), or a RAM (250), which reads on “a compressed data area that stores compressed data obtained by compressing said image data”, (col. 10, lines 29-32; col. 11, lines 50-62). The processes executed by the CPU (211) in accordance with programs stored in ROM (260), which reads on “a first decision section”, determines if RAM for storing the intermediate data is deficient (i.e. memory deadlock) and whether the internal processing transits to states (294) and (296) to carry out compression of the entire page to secure a vacant area and avoid the deadlock, which reads on “that decides whether or not to store the compressed data of said print data in said compressed data area”, (col. 6, lines 37-46). The CPU (211) in accordance with programs stored in ROM (260), which reads on “a prediction section” determines whether the memory is deficient or not for loading converted (i.e. compressed) data in the RAM (250), which reads on “that predicts a data volume of the compressed data of said print data”, (col. 6, lines 15-17; col. 13, lines 1-9; col. 17, lines 32-34). Further, the CPU (211) in accordance with programs stored in ROM (260), which reads on “a second decision section” determines whether the memory is deficient and whether actual vacant memory is sufficient to hold compressed data, which reads on “that decides whether it is possible to store or not the compressed data of the data volume predicted by said prediction section in said compressed data area”, (col. 13, lines 2-20; col. 15, lines 21-26).

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Regarding, **claim 15**, please refer to the corresponding rejection in claim 1 and further, where Mitani teaches an input section (230), which reads on “an image communication apparatus, as shown in figures 4 and 25, that communicates data sent from a host computer (210) via a network such as a LAN, (col. 5, lines 35-50; col. 20, lines 46-51).

Regarding, **claims 17-19**, please refer to the corresponding rejection in claim 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 2-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitani, US-PAT-NO: 6,124,943 as applied to claim 1 above, and further in view of Silverbrook, US-PAT-NO: 5,984,446, (hereinafter, Silverbrook).

Regarding, **claim 2**, Mitani teaches the printing apparatus according to claim 1 wherein said first decision section decides on storing the compressed data of the print data in said compressed data area as discussed above. Mitani fails to expressly disclose, “based on information added to said print data and said prediction section predicts a volume of the compressed data of the print data based on the information added to said print data”, (lines 23-26).

However, Silverbrook teaches that a compression scheme is described in relation to constants, and that approximately 1000, A4 (i.e. page size), color pages can be stored per Gbyte

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of storage disk, which reads on “based on information added to said print data and said prediction section predicts a volume of the compressed data of the print data based on the information added to said print data”, (col. 33, lines 30-59).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify Mitani with Silverbrook’s step to select compression based on types of information such as A4, 800 dpi, color printing.

One of ordinary skill in the art would have been motivated to select a type of compression scheme associated with specific parameters in order to reduce the cost of storage, given the express suggestion of Silverbrook, (col. 33, lines 20-26).

Regarding, **claim 3**, Silverbrook teaches of a specific compression scheme for a page size of 210 mm X 293mm (A4), the color space used is CMYK and the number of bytes used, which reads on “said information added to the print data at least includes the type of said print data, the number of total pages, and the size of a printing medium to which the data is printed”, (col. 33, lines 35 through 67).

Regarding, **claim 4**, Silverbrook teaches printing 800 dpi, with page size of A4, color printing requires no compression, which reads on “wherein said first decision section decides whether or not to store the compressed data of the print data in said compressed data area based on the type of said print data”, (col. 33, lines 56-59).

8. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitani, US-PAT-NO: 6,124,943, in view of Silverbrook, US-PAT-NO: 5,984,446, as applied to claim 4 above, and further in view of Fujioka, JP 11-301058, (hereinafter, Fujioka), as cited by the Applicant(s).

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Regarding, **claim 5**, Mitani in view of Silverbrook teach the printing apparatus in claim 4, but fail to expressly disclose when the type of said print data is secret printing, then the compressed data of the print data should be stored in said compressed data area.

However, Fujioka teaches that encrypted (i.e. compressed) user ID code, and a password is added when printing data from the host device (9) stored in the spool memory (7) in PDL form, which reads on “the type of said print data is secret printing, that the compressed data of the print data should be stored in said compressed data area”, (paragraphs 0012; 0018-0019; 0021; 0032).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify a first decision section to store compressed data in a compressed data area based on secret printing.

One of ordinary skill in the art would have been motivated to have secret printing in order to acquire authentication in order to delete file data when spool memory is short, given the express suggestion of Fujioka, (0013; 0021; 0032).

9. **Claim 6-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitani, US-PAT-NO: 6,124,943 as applied to claim 1 above, and further in view of Nakatani, US-PAT-NO: 5,854,692, (hereinafter, Nakatani).

Regarding, **claim 6**, Mitani teaches the printing apparatus according to claim 1, but fails to expressly disclose, “wherein said first decision section decides, when printing of the print data received from said host apparatus is not immediately carried out, that the compressed data of the print data should be stored in said compressed data area”.

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However, Nakatani teaches if the page data of one original group is printed out from the first page, and a page-jam occurs meanwhile, the original group of data is stored in compressed data memory (37) as data for re-recording file after the paper-jam is cleared, which reads on “said first decision section decides, when printing of the print data received from said host apparatus is not immediately carried out, that the compressed data of the print data should be stored in said compressed data area”, (col. 4, lines 44-55).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to store the compressed data in a memory, taught by Nakatani when there has been a cause to inhibit immediate printing with the printing apparatus taught by Mitani.

One of ordinary skill in the art would have been motivated to store compressed data in a memory when immediate printing of that data has been inhibited in order to re-record the first page, when the trouble is reset, given the express suggestion of Nakatani, (col. 4, lines 53-56).

Regarding, **claim 7**, Mitani teaches a printing output process, wherein when the capacity of the RAM (250) is deficient, due to the intermediate data being too large, the intermediate storage area (251) is compressed to create a vacant area for subsequent, plurality of bands, which reads on “when a plurality of print data pieces is received from a host apparatus, that the compressed data of any one of those print data pieces should be stored in said compressed data area, (col. 11, lines 63 through col. 12, lines 9).

Regarding, **claim 8**, Nakatani inherently teaches, “when no printing medium to which the image data of said print data is printed exists in the apparatus, that the compressed data of the print data should be stored in said compressed data area” as evidenced by the background of the invention, when paper runs out while printing, a reception mode is automatically switched to a

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memory reception mode to start storing data from the next page in some machines, (col. 1, lines 25-30). This is further evidenced in the invention by a type of print disruption, the paper jam causes the data of the original group to be stored in compressed data memory (37), (col. 4, lines 49-55).

10. **Claims 9-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitani, US-PAT-NO: 6,124,943, and further in view of Silverbrook, US-PAT-NO: 5,984,446, as applied to claim 3 above, and further in view of Ishibashi, US-PAT-NO: 6,226,329 B1, (hereinafter, Ishibashi).

Regarding, **claim 9**, Mitani in view of Silverbrook teaches a printing apparatus according to claim 3. Further, Mitani in view of Silverbrook teaches comprising a compression by compression/expanding section (280), as shown in figures 12a-12b, which reads on “a compression/decompression section” that compresses by compression/expanding section that stores compressed data in the compressed data storage area (256), which reads on “that compresses the image data of said print data and stores the compressed data in said compressed data area on one hand” and expands image data by expansion by compressing/expanding section (280) and stores it in band raster 1 (252), which reads on “and decompresses the compressed data stored in said compressed data area on the other”, (Mitani, see figures 12a-12b).

Mitani in view of Silverbrook does not expressly disclose, “wherein said prediction section predicts a data volume of the compressed data of said print data based on said total number of pages and the compression rate of said compression/decompression section corresponding to the size of the printing medium to which the data is printed”.

However, Ishibashi teaches a control part (7) that controls the compression rate of the image compression part (2) based on the number of pages of the stored images, which reads on “wherein said prediction section predicts a data volume of the compressed data of said print data based on said total number of pages and the compression rate of said compression/decompression section corresponding to the size of the printing medium to which the data is printed”, (col. 4, lines 7-16).

At the time the invention was made it would have been obvious to one of ordinary skill in the art to control the compression rate as taught by Ishibashi with the compression/decompression taught by Mitani in view of Silverbrook.

One of ordinary skill in the art would have been motivated to control the compression rate of the image compression part (2) in order to monitor situations where the storage capacity might be exceeded, given the express suggestion of Ishibashi, (col. 4, lines 10-13).

Regarding, **claim 10**, Ishibashi inherently teaches, “the compression rate is a minimum for the size of said printing medium to which the data is printed”, as evidenced by the image quality is deteriorated at the increased compression rate and further evidenced by using a higher compression rate in an economy print-mode, (col. 4, lines 24-36).

Regarding, **claim 11**, please refer to the like teachings of claim 1.

Regarding, **claim 12**, please refer to like teachings of claim 1 for the printing apparatus, which reads on “the printing section that prints image data stored in said image data area to a printing medium” and claim 9 for the compression/expansion section which reads on “said compression/decompression section”.

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11. **Claim 13** is rejected under 35 U.S.C. 102(e) as being anticipated by Mitani, US-PAT-NO: 6,124,943, (hereinafter, Mitani) as applied to claim 1 above, and further in view of Menendez et al. US-PAT-NO: 5,113,494, (hereinafter, Menendez).

Regarding, **claim 13** Mitani teaches the apparatus of claim 1, but fails to expressly disclose, “said second decision section, when it is not possible to store the compressed data of the data volume predicted by said prediction section in said compressed data area, notifies this to said host apparatus”.

However, Menendez teaches the following: “a file server associated with this device transmits a file containing compressed image data over the LAN to that printer node. Once the text data, if requested, is located on a corresponding storage device (typically a magnetic disk), then the file server associated with that device routes the text data to the same printer node. If, for any reason, the image or text retrieval fails, then the corresponding storage device sends an appropriate message to the KIM host computer which routes the message back to printer node that generated the request. The print symbiont executing there appropriately notifies the operator, through the network, that the retrieval was not successful.” which reads on “said second decision section, when it is not possible to store the compressed data of the data volume predicted by said prediction section in said compressed data area, notifies this to said host apparatus”, (col. 11, lines 22-35).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to send a message to the host if the storage device has inadequate space for image or text data as taught by Menendez with the network taught by Mitani.

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One of ordinary skill in the art would have been motivated to notify the host computer of low storage in order to transmit data to an alternate printer, given the express suggestion of Menendez, (col. 11, line 24-25).

12. **Claims 14 and 16** are rejected under 35 U.S.C. 102(e) as being anticipated by Mitani, US-PAT-NO: 6,124,943, (hereinafter, Mitani) as applied to claim 1 above, and further in view of Fujioka, JP 11-301058, (hereinafter, Fujioka), as cited by the Applicant(s).

Regarding, **claim 14**, Mitani teaches the printing apparatus according to claim 1, but fails to expressly disclose a “copying apparatus that prints print data sent from a host apparatus via a network”, or a “copying unit that scans a document and copies the scanned image data, wherein the compressed data area of the storage section of said printing apparatus stores the image data scanned by said copying unit”.

However, Fujioka illustrates in figure 1, of a storage printing system constituted by a digital combined unit and a host device (9), wherein the digital combined unit comprises a copy/system control part (1), a scanner (2), a scanner control part (3), a printer control part (4), a FAX control part (5), a plotter (6), and a spool memory (7), which reads on a “copying apparatus that prints print data sent from a host apparatus via a network”, and “copying unit that scans a document and copies the scanned image data, wherein the compressed data area of the storage section of said printing apparatus stores the image data scanned by said copying unit”, (0014 through 0023).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify Mitani’s printing apparatus with Fujioka’s copying apparatus.

One of ordinary skill in the art would have been motivated to use a copying apparatus, because of the multifunctional capabilities.

Regarding, **claim 16**, please refer to the like teachings of claim 1 and 14.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Taoda, US-PAT-NO: 6,480,295 B1, see figure 4, step (S13-S18).

Ramchandran, US-PAT-NO: 5,805,174 see figure 3, step (54-56), where the complexity of an image reaches a threshold before rasterizing and compressing data.

Wakana, Toru, JP 10-147016 A, see Abstract, reduces large volume of data in a memory and compresses raster data in a specified raster memory.

Bryniarski et al. US-PAT-NO: 5,974,182, a method to predict if compressed images will fit inside a storage space, (step 114, in figure 2).

Campbell et al. US-PAT-NO: 5,611,024, a data compression of bit map images with a desired speed of compression.

Montero, US-PAT-NO: 6,133,912, a method of delivering information over a communications network by encryption (i.e. compression) of userID and password, (col. 6, lines 40-45).

Shimada, US-PAT-NO: 6,621,588 B1, CPU judges whether the total capacity of the converted intermediate language data exceeds a capacity set to management RAM to control switching between rendering process modes used by a hardware renderer.

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Hosotsubo, JP 08-207401, a method to compress data in a perfect printing system, See abstract.

Aoki, US-PAT-NO: 6,369,907 B1, a network system connecting a printer to the network and managing the information memory medium, (col. 1, lines 30-45 and lines 64 through col. 2, lines 20).

Shima, US-PAT-NO: 6,369,909 B1, a printer notifies performance attributes to the host computer on a network.

Kopecki, US-PAT-NO: 6,577,407 B1, a printer-system for printing data from a network device, with data compression for storage formatting, (col. 6, lines 50-56).

Mori, US-PAT-NO: 6,070,000, a plurality of PC's with printing device and condition for transmitting among printers depending on the condition of the printers, such as a paper supply sensor data, see figure 2.

Kaneko, Haruya; JP 08-300745, a data of a receiving memory (310) for PDL data from a host computer is encoded, while another kind of printing data is stored in intermediate data, (see abstract).

Kikuchi, Sasuchi, JP 06-141167 compressing picture information of a A4 size from a communications channel, tentatively, and storing in image storage means prior to printing (prevent wasteful consumption of printing paper).

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie M Vida whose telephone number is (703) 306-4220.

The examiner can normally be reached on 8:30 am 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams can be reached on (703) 305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Melanie M Vida
Examiner
Art Unit 2626

MMV
mmv

March 16, 2004

KA Williams
KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER